

MEDIA RELEASE

Wednesday, 18th April 2018

Biopen receives funding to boost health innovations in Australia

One of 11 projects selected for \$10 million BioMedTech Horizons program investment

[MTPConnect](#) – the Medical Technology, Biotechnology, and Pharmaceutical (MTP) Industry Growth Centre – and the Minister for Health, the Hon Greg Hunt MP, today announced that Biopen and 10 other projects are successful recipients of investment from the Australian Government’s \$35 million BioMedTech Horizons program.

The program aims to help Australia move more cutting edge-ideas and breakthrough discoveries towards proof-of-concept and commercialisation, and stimulate collaboration across disciplines between the research, industry and technology sectors to maximize entrepreneurship and idea potential.

The Biopen has been jointly developed by the [University of Wollongong](#) and [St Vincent’s Hospital Melbourne](#), led by Professor Peter Choong from St Vincent’s Hospital Melbourne with technological aspects driven by Professor Gordon Wallace and Professor Simon Moulton from the [ARC Centre of Excellence for Electromaterials Science \(ACES\)](#). This project is focused on creating a hand-held 3D printer pen filled with stem cell ink, to ‘draw’ new cartilage into damaged knees. It will give surgeons greater control over joint repairs, and reduce the time a patient is in surgery.

Headquartered at the University of Wollongong, ACES will develop a unique bioink formulation as well as work with or establish a new entity to produce and supply larger quantities of the ink formulation for commercial purposes. This project also incorporates Biosphere, a novel stem cell technology developed by Swinburne University and St Vincent’s Hospital that will be used to provide clinically relevant cell numbers for use in tissue regeneration. The Biopen paves the way for the Melbourne-led team to eventually repair damaged bones, muscles and tendons, and reduce the need for joint replacements.

“This project builds upon fundamental research within ACES, bringing together a multidisciplinary team to ensure translation,” said Director of the ACES, Professor Gordon Wallace.

“The Biopen project represents the convergence of science, engineering and medicine to deliver a novel solution for repairing cartilage damage using the latest technologies in stem cell science, 3-D printing and tissue engineering. The BioMedTechHorizons grant will enable the partnership between Australian academia, healthcare and industry to lead and translate our research discoveries at the coal face of care.”

Sue MacLeman, Managing Director and CEO of MTPConnect, said the BioMedTech Horizons program is providing the necessary support to boost investment, commercialisation and success of health innovations in Australia.

“These first investments from the BioMedTech Horizons program are set to fuel ongoing innovation in Australia, in line with MTPConnect’s priorities for growth of the medical technology, biotechnology and pharmaceutical sector. Biopen and the other 10 outstanding projects address

ARC Centre of Excellence for Electromaterials Science
electromaterials.edu.au

identified global megatrends including precision healthcare and the digital evolution, as well as forecasted areas of unmet clinical need, such as immunology and advanced prosthetics.”

Minister for Health, the Hon Greg Hunt MP, said, “The Turnbull Government is committed to improving the health services for all Australians and will continue to invest in better treatment, care and medical research. Our researchers are innovators and this investment will speed up the journey from idea to reality. These technologies have the potential to create better health outcomes for Australians, while driving investment and strengthening our economy. All Australians benefit from investment in health and medical research.”

The BioMedTech Horizons program is being delivered as a part of the Australian Government’s \$20 billion Medical Research Future Fund, which aims to transform health and medical research to improve lives, build the economy and contribute to health system sustainability through targeted strategic investment.

For more information on the BioMedTech Horizons program and first round recipients, please visit: www.mtpconnect.org.au/biomedtechhorizons

– ENDS –

About Biopen

Project partners:

University of Wollongong, St Vincent’s Hospital Melbourne, University of Melbourne

Project Description:

The Biopen is a handheld device which uses 3D-printing methods to let surgeons 'draw' live cells and growth factors directly onto the site of an injury – to help accelerate the regeneration of functional bone and cartilage. Orthopaedic surgeons have used it in test cases to design customised implants during surgery. It is designed to accelerate the regeneration of functional bone and cartilage. The pen delivers the patient’s own live and growing cells inside a biopolymer, protected by a second, outer layer of gel material. The two layers are combined in the pen head as the surgeon ‘draws’ the ink on the damaged bone layer by layer to form a 3D scaffold in the damaged bone.

A low powered ultra-violet light source fixed to the device solidifies the inks to protect the embedded cells during dispensing. Once in the body, the cells multiply, differentiate into nerve cells, muscle cells or bone cells, and eventually form functioning tissue.

About MTPConnect

MTPConnect was formed as a not-for-profit organisation in November 2015 as part of the Australian Government’s Industry Growth Centres Initiative to accelerate the rate of growth of the MTP sector to achieve greater commercialisation and establish Australia as an Asia-Pacific hub for MTP companies.

The MTPConnect Head Office is located at the New Horizons Building at Monash University, co-located with CSIRO and industry. There are also key hubs at the University of Sydney’s Institute of Biomedical Engineering and Technology and the Medical Device Research Institute at Flinders University at Tonsley in Adelaide.

ARC Centre of Excellence for Electromaterials Science
electromaterials.edu.au



Industry Growth Centres

The Industry Growth Centres Initiative is an industry-led approach driving innovation, productivity and competitiveness by focusing on areas of competitive strength and strategic priority. This will help Australia transition into smart, high value and export focused industries.

The Initiative enables national action on key issues such as collaboration, commercialisation, international engagement, skills and regulation reform. It drives excellence, not dependence, and will create an economy that ensures Australia's ongoing prosperity. For more information: www.industry.gov.au/industrygrowthcentres

Media Inquiries:

Please contact ACES Communication and Media Officer Sian Wright on 02 4221 5960 or sianw@uow.edu.au to arrange an interview with Professor Gordon Wallace.

The ARC Centre of Excellence for Electromaterials Science (ACES)

Based at the University of Wollongong's Innovation Campus, ACES is a multidisciplinary research group with a focus on developing functional devices for applications including batteries, solar cells and systems that interact with living tissue.